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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,900	10/18/2001	Masomeh B. Sticklen	MSU 4.1-539	9143

21036 7590 06/07/2005

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EXAMINER

KALLIS, RUSSELL

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/981,900	Applicant(s) STICKLEN ET AL.	
	Examiner Russell Kallis	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7-15,17,47,53-61,63-65,71-79,81,82,100,102 and 103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7-15,17,47,53-61,63-65,71-79,81,82,100,102 and 103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 2-6, 16, 18-46, 48-52, 62, 66-70, 80, 83-99, 101 and 104 are cancelled.

Claims 1, 7-15, 17, 47, 53-61, 63-65, 71-79, 81-82, 100 and 102-103 are pending and examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1, 7-15, 17, 47, 53-61, 63-65, 71-79, 81-82, 100 and 102-103 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Himmel M. *et al.* U.S. Patent 6,013,860 issued January 11, 2000, in view of Crawford *et al.*, U.S. Patent 5,200,338 issued April 6, 1993; and in further view of de Boer, H. *et al.* Gene, 1987, Vol. 60; pages 93-102 and Applicant's admission of the prior art. This rejection is maintained for the reasons of record set forth in the Official action mailed 12/03/2004. Applicant's arguments filed 3/04/2005 have been considered but are not deemed persuasive.

Applicant asserts that although the claimed invention or modifications to the claimed invention is within the capabilities of one of ordinary skill in the art there is still not sufficient impetus to combine a plant with a ligninase because the Crawford reference does not provide motivation to transform a plant with a lignocellulose and teaches away from incorporating the ligninase genes into herbaceous plants because Crawford teaches a simple and effective approach using a lysate from a microbial source (response pages 21-23). The nature of the problem, to degrade lignocellulose when a plant is ground, when combined with the ordinary level of skill in the art for plant transformation and for directing enzymes such as a cellulase to specific plant compartments to protect the plant

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before lignocellulose degradation as taught by Himmel; and the teachings of Crawford that degrading lignin would improve the degradation cellulase in lignocellulose (column 1 lines 38-63), that lignin or lignocellulose can be degraded from a variety of sources and the woody substrate may be in any form such as pulp, chips, or other processed or natural plant parts (column 5, lines 12-16) as well as adding cellulose to the ligninase (see claim 13 of Crawford), there is sufficient motivation to combine the teachings such that one of ordinary skill would include transforming a plant a with a polynucleotide encoding a cellulose and ligninase to better degrade lignocellulose. Further, it is noted that Applicant has taught nothing more than what is taught in the art and since there is no teaching of unexpected results, the specification appears to be prophetic.

All claims remain rejected.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Russell Kallis Ph.D.
May 17, 2005

A handwritten signature in black ink, appearing to read "Amy Nelson", with a stylized flourish at the end.

AMY J. NELSON, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600